Halal Meat Fraud and safety issues within the European Union: A review

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Abstract

Since the discovery of horsemeat in some processed beef products in early 2013, there has been increased speciation testing of products of meat origin within the EU. This led to the detection of porcine DNA and subsequently pork meat in some processed "Halal" products in the UK. This situation caused a great deal of panic and distress among the UK Muslim population, as the consumption of pork or its derivatives is strictly forbidden in Islam. This paper considers what makes meat Halal and discusses existing gaps in Halal certification and the regulation of Halal meat that potentially expose the Halal market to fraudulent activity.

Keywords

Halal meat; Food Safety; Meat Fraud; Stunning; Slaughter;

1. Introduction

The adulteration and mislabelling of meat and other food products is not a new phenomenon. Within the EU, there are stringent measures in place to protect and promote foods that are traditional specialties and have geographical indications such as Protected Geographical Indication (PGI), Protected Designation of Origin (PDO) and Traditional Specialties Guaranteed (TSG) and law protects these. Relevant EU food safety and labelling legislation also seeks to prevent the adulteration and

production of foods that may pose a public health risk, as well as the misrepresentation (through mislabelling) of food in order to deceive consumers. Despite these preventative measures, certain individuals, in using unapproved methods, succeed to produce food that is unfit for human consumption or not correctly described. These individuals are more often than not, motivated by greed, and a desire to maximise profits. Halal meat is that derived from animals slaughtered in accordance with the Islamic dietary laws enshrined in the Quran (Islamic Holy Book) and the Hadith (The traditions of the Prophet of Islam, Mohammed). The majority of practicing Muslims will only consume Halal meat, as many regard the consumption of such meats as a form of worship. Due to the spiritual significance of Halal meat to Muslims consumers, in addition to the economic benefits associated with trading in such meats due to the expansion in the global Muslim population, there has been competition for a share of the Halal market by mainstream food business operators in the industrialised world. The Pew Research Centre (2015) projected that if the current trends continue, the global Muslim population will increase by 73% to 2.8 billion by the year 2050. Despite the apparent economic benefits associated with trading in Halal food products, many Halal consumers have expressed concern about the lack of understanding of the rules surrounding the slaughter of animals, and the subsequent processing or handling of these products for Muslim consumption. The situation is exacerbated by the fact that many Halal Food Business Operators in the West are non-Muslims with limited or no understanding of the Islamic dietary laws. Also, the recent discovery of fraudulent activities in the Halal industry (BBC 2014 2015; Birmingham Mail 2014; Hufffington Post 2014a; Mail Online 2015) has aggravated the situation. The detection of undeclared horsemeat (and horse DNA) in some products in the UK (Food Standards Agency,

FSA 2013; The Guardian 2013a) led to more stringent tests of processed foods for undeclared materials (FSA, 2014), which has resulted in prosecutions (FSA 2015; Food Safety News 2015). The subsequent increase in product testing led to the detection of pork meat and porcine DNA in various "Halal" products destined for Muslim consumption (The Guardian 2013b; ITV News 2013). Muslims are forbidden to farm, trade or consume pork or any by-product from pigs.

Whilst many fraudulent activities in the Halal industry, such as the intentional mislabelling of non-Halal meat as Halal, or the contamination of Halal meat with pork (and its derivatives) or other non-Halal materials, may be motivated by the desire of some unscrupulous Food Business Operators (FBOs) to maximise profits, the inability of Halal Certification Bodies (HCBs) to agree on a unified Halal standard may be considered to be partially to blame for some of the lapses in the understanding of the requirements of the Islamic dietary laws. Some HCBs, for instance, approve food-processing sites, which, in addition to processing Halal products, may also process pork or other non-Halal materials using the same equipment and processing lines. Although these sites claim to 'thoroughly' clean the equipment after the processing of pork, other HCBs are of the view that the cleaning may still expose Halal products to porcine DNA contamination and will not certify such a site. In the UK, porcine DNA has been detected in 'Halal' savoury beef pastry products originating from a processing plant where pork and the "Halal" products in question were processed using the same equipment (The Guardian 2013b). Notwithstanding the disagreement on the processing of Halal and pork or pork derivatives on the same processing lines by HCBs, there appears to be differences in Halal standards regarding the acceptability of pre-slaughter stunning of animals, machine (mechanical) slaughter of

76 birds, thoracic (chest) sticking of ruminants and some aspects intensive livestock
77 production systems.
78 This paper attempts to define Halal meat, whilst highlighting gaps and loopholes
79 within Halal certification and enforcement that expose Halal meat to fraud. It also
80 considers the differences that exist between the Halal standards used by different
81 Halal authorities across the EU. The paper contributes to the literature regarding the
82 definition of Halal in terms of animal welfare and food safety.

83 **2. What is Halal**

84 Halal is an Arabic word that literally means anything that is permissible or lawful
85 (Riaz 1996, Fuseini et al. 2016a). When used in relation to meat, such meats must be
86 derived from specific animals slaughtered in accordance with requirements specified
87 in the Quran and Hadith. Extensive reviews of the requirements of Halal slaughter
88 have recently been conducted (Farouk 2013; Fuseini et al 2016a; Fuseini et al.
89 2016b). It is generally agreed within the Muslim community that for meat to be
90 acceptable for consumption by Muslims, the animal must be a species that is accepted
91 for Halal, more importantly, it must also be fit and well at the time of slaughter and
92 that sufficient time must be allowed for the loss of blood, which leads to irreversible
93 loss of brain function. The Quran expressly forbids Muslims from consuming blood.
94 This may be due to the role residual blood (in the carcass) plays in the spoilage (and
95 palatability) of meat, particularly against the background that at the time the Quran
96 was revealed, there were no advanced technologies such as refrigeration systems for
97 the preservation of meat. Kirton et al. (1991) suggested that poor bleeding-out at
98 exsanguination results in poor keeping and eating quality. There is lack of evidence to
99 support the hypothesis that the method of stunning or slaughter affects the loss of
100 blood as quoted below. It must be emphasised, however, that blood loss at

exsanguination cannot be literally complete, as residual blood will always remain in the capillaries whether animals are slaughtered with or without stunning. Hence the religious ban on the consumption of blood must be interpreted as an intention for proper bleeding, i.e. removing as much blood as it is practically possible from the carcass.

Despite the fact that Islamic authorities around the world unanimously agree on some of the requirements of Halal slaughter, there are other aspects of Halal slaughter that have divided opinion among Islamic jurists, leading to confusion among Halal consumers, food business operators and other stakeholders in the Halal industry as to what is authentic Halal meat. For instance, European Council regulation, EC 1099/2009 requires the pre-slaughter stunning of all animals before slaughter in order to induce immediate loss of consciousness, however, paragraph 18 EC1099/2009 gives derogation for slaughter without stunning, it is enshrined within this legislation as well as in some member states for faith groups. Some Islamic jurists have vehemently argued against the use of any form of stunning for Halal slaughter, whilst others are of the opinion that pre-slaughter stunning is Halal compliant, on condition that the stunning itself is fully recoverable and does not lead to injury (to the animal). Opponents of pre-slaughter stunning for Halal slaughter have often cited the possibility of animals dying following stunning and before exsanguination as the main reason pre-slaughter stunning contradicts the Islamic dietary rules. Others are of the opinion that the stunning of animals prior to slaughter results in the retention of more blood in the carcass in comparison with those slaughtered without stunning. However, repeated research has demonstrated that there is no difference in animals that are slaughtered either with or without pre-slaughter stunning in terms of the total blood lost at exsanguination (Khalid et al. 2015; Anil et al. 2006; Gomes Neves et al. 2009).

In addition, some methods of stunning e.g. head-only electrical stunning support the full recovery of animals if they are not slaughtered post-stunning (Wotton et al., 2014; Orford et al., 2016). These misconceptions produce disagreements within the Muslim community, which, in addition to the lack of an overarching regulatory authority for Halal food in EU member states, and other countries in the developed world, opens the door for misinterpretation and potential fraudulent activities in the Halal food industry.

3. The market for Halal meat

The demand for Halal meat is on the rise and it is projected to continue to grow (Farouk 2013; Sungkar 2009; Bonne and Verbeke 2008). Many factors contribute to the exponential growth in demand for Halal meat. Lever and Miele (2012) cited the UK and France as the two EU countries where for over a decade there has been uninterrupted growth in the demand for meats slaughtered according to the Halal rules. The global expansion in Muslim population (Pew Research Centre 2015) may be responsible for the continued growth of the Halal meat market. However, some researchers have suggested that the growth of the Halal meat market within the EU is attributed to the increased migration of Muslims across Europe in recent years (Bergeaud-Blackler 2004). Although this observation was made over a decade ago, the recent exodus of Muslim refugees from countries such as Syria, Iraq, Afghanistan and Libya into the EU, due to the surge in religious extremism and on-going wars in those countries, has reaffirmed migration as one of the most important factors influencing the growth of the EU Halal meat market. Also, the continued increase in the export of Halal certified meat and processed meat products from the EU to Muslim-majority countries such as Turkey, Indonesia, Malaysia, the UAE and Singapore is another important factor influencing the growth of the Halal meat market

151 in Europe. Temporal (2011) reported that the Asia Pacific region accounts for the
152 largest share of the global Halal export, whilst Singapore was identified as the single
153 most important centre for the transit of Halal products en-route to the major importing
154 countries. It must be noted that the consumption of Halal meat is not restricted to
155 Muslim consumers. In the UK and other parts of Europe, many non-Muslims continue
156 to patronise Halal restaurants and fast food chains that clearly advertise their meat as
157 Halal with little or no information as to whether animals were pre-stunned or not.
158 Notable among these restaurants and fast food chains include Kentucky Fried Chicken
159 (KFC), Subway, Nandos, and a large number of Indian restaurants on the high street.
160 Some of these establishments are solely "Halal restaurants" and all products in such
161 restaurants are usually certified Halal by one of the numerous HCBs that exist. It is
162 therefore not surprising that the mainstream retail multiples within the EU, including
163 Albert Heijn, Aldi, Asda, ,Carrefour, Marks and Spencer, Morrisons, Sainsbury's,
164 Tesco and Waitrose have all started stocking fresh or processed Halal meat products
165 (Awan et al. 2015; The Telegraph 2014). These retailers are always quick to
166 emphasise that they do not sell unstunned meat under their own label, however,
167 unstunned meat may still be sold in some of the stores, usually under a third party
168 label. Despite the scramble for a share of the Halal meat market by the major retail
169 multiples, the preferred point of purchase of Halal meat by the majority of Muslims is
170 the local Halal butcher (Riaz 1996; Becker et al. 1998; Glitsch 2000; Ahmed 2008;
171 Bonne & Verbeke 2008). This may have influenced the recent opening of Muslim-
172 butcher stalls in many of the supermarkets within the UK. In a survey involving 300
173 UK Halal consumers, the majority of respondents (90%) indicated that they were
174 unaware of the fact that some of the major supermarket chains sold Halal meat. The
175 findings also revealed that the majority of Halal consumers (96%) prefer to shop at

176 the local Muslim-butcher shop because they trusted their compliance with Halal more
177 than the supermarket chains (Ahmed 2008). Although some non-Muslims continue to
178 consume Halal meat willingly (or unknowingly), others avoid it for the reason that
179 they consider such meats can be from animals slaughtered in an inhumane manner,
180 albeit a significant proportion of Halal meat is stunned prior to slaughter. In fact,
181 within the EU, the proportion of Halal meat stunned before slaughter has been
182 reported as 65% of cattle, 50% of small ruminants and 50% of poultry (DIALREL
183 2010). In the case of slaughter by followers of the Jewish faith (Shechita), all forms of
184 stunning have been rejected, leading to the slaughter of all animals without stunning.
185 It does appear however, that, a significant proportion of the animals slaughtered
186 according to the rules of Shechita cannot be consumed by the Jewish community due
187 to the presence of the "forbidden fat" (tallow) and the sciatic nerve in the
188 hindquarters. These "unfit products" are therefore passed onto the non-Kosher market
189 (Conway & Lichtenstein 2015; RSPCA 2015), because within the EU, there is
190 currently no legal requirement for meat to be labelled with the slaughter method or,
191 more specifically, whether the meat originates from animals stunned pre-slaughter,
192 post-cut stunned or unstunned. Whilst some animal welfare proponents are calling for
193 meat to be labelled as either stunned or unstunned (if the legislation continues to
194 permit non-stun slaughter) to provide clarity to consumers (RSPCA 2015),
195 organisations representing the veterinary profession have called for a total ban on the
196 slaughter of animals without stunning within the EU on animal welfare grounds
197 (BVA 2015; FVE 2016).

198 **4. Halal meat certification in Europe**

199 The ultimate goal of the certification of meat as Halal by third-party HCBs is to
200 provide assurance to Halal consumers that some key requirements have been met

during the slaughter, processing, packaging, storage or transport of the meat. This is particularly important within the EU and other industrialised countries where many FBOs may be unfamiliar with the requirements of Halal, additionally, there is increased risk of cross contamination of Halal food with non-Halal products such as pork during further processing, storage or transport. The concept of Halal certification within the EU is a relatively new phenomenon. In the UK, the first HCB ever to certify meat as Halal, the Halal Food Authority (HFA), was established in 1994. According to this organisation, their main objective at inception was to "monitor and authenticate" the Halal status of poultry and red meat because the Halal status of up to 85% of "Halal meat" in the UK at the time could not be verified (HFA, 2016). Opponents of Halal food certification have often questioned the motives of those ventures. It has been suggested that the exponential increase in the population of Muslims across Europe in recent years may have contributed to the increase in the number of unregulated HCBs, all with the aim of independently verifying Halal status, and facilitating the trade in Halal products (Fuseini et al 2016b). Within the UK alone, there are over 10 HCBs who are all competing applying varying Halal standards in their quest to assure consumers about the authenticity of Halal meat certified by themselves. There have been accusations and counter-accusations among the certifiers as to whose Halal standard is genuine. The lack of government involvement or a central monitoring body of HCBs has meant that any individual can set-up an HCB with little or no technical expertise about meat, potentially a lack of specific religious knowledge and/or non-mainstream agreement about what makes meat Halal. Lack of technical understanding has led to a lack of proper monitoring and scrutiny of some Halal certificated sites, which has resulted in the contamination of Halal products at processing sites where Halal and non-Halal products are

226 produced in tandem but with poor segregation and/or cleaning (Saqib Mohammed,
227 Personal communication, 2016). Others have been accused of approving slaughter
228 technologies that violate the basic requirements of Halal slaughter. Although many
229 Muslims would appear to prefer meat from animals slaughtered without stunning
230 because the method guarantees a live, uninjured animal at the time of slaughter
231 (EBLEX 2010), recent covert filming at non-stun Halal slaughterhouses by animal
232 welfare activists in Belgium and the UK have highlighted systemic abuse and
233 suffering of animals destined for the Halal food chain (PETA 2009; Newsweek 2015).
234 These practices would have undoubtedly violated the animal welfare requirements of
235 Halal slaughter enshrined in the Quran and *Hadith*. It must be emphasised that such
236 violations are also common in Muslim-majority countries where very painful and
237 violent methods are used in coercing and restraining animals prior to slaughter. These
238 include the hoisting of conscious animals (usually ruminants) by the hind leg prior to
239 slaughter, slashing of tendons in the hind legs in order to immobilise conscious
240 animals prior to slaughter and the lifting of small ruminants by their wool or limbs
241 (CIWF, 2007; 2008; 2012). There is therefore a need for proper monitoring and
242 regulation of Halal slaughter in Muslim-majority countries too, the mere fact that an
243 animal is not stunned prior to slaughter does not necessarily make the meat compliant
244 with all the Halal slaughter requirements. Some of the problems that exist within
245 Halal certification could be rectified with a unified global Halal standard. This would
246 ensure that all HCBs operate under the same rules, and would be analogous to the
247 current EU 'Organic' standard overseen by a number of certification bodies all
248 operating to the same overarching rules. The Organisation of Islamic Cooperation
249 (OIC), an inter-governmental organisation with 57 member states is currently working
250 on the development of a global Halal Standard (OIC 2015). Pointing et al., (2008)

pointed out that until there is clarity or consensus on the correct definition of Halal, enforcement agencies would find it difficult to protect Halal consumers. Further, consumer law, according to Pointing et al., (2008), does not currently give sufficient protection to Halal consumers despite the Muslim authorities having made attempts to develop quality standards to instil some confidence in Halal products.

The high cost of Halal certification to FBOs is another area that has attracted attention. The annual certification fee for an abattoir or food-processing site in the UK in 2016 can range from a few hundreds of pounds to tens of thousands of pounds, depending upon the HCB. The certification fee may be insignificant to the major players in the meat industry, however, to small throughput plants and food businesses, this potential cost can be significant. In an attempt to avoid a fee, some FBOs have been found to intentionally mislabel non-Halal meat as Halal, others have resorted to "self-certification", this is where an FBO verifies its own Halal status and communicates this to the Halal consumer. This practice is common among Muslim owned food businesses. Whilst some businesses have successfully implemented this model, others have struggled to effectively put it into operation. The practice of "self-certification" can only be used where the target consumers are local, this is because most Halal importing countries require a Halal certificate to accompany all Halal meat products before such products can be given clearance. Lever and Miele (2012) cited a French Halal lamb distributor, Halaldom, as a company that has successfully utilised "self-certification" of its Halal products. According to the authors, this has been possible due to a "strong communication strategy with Muslim consumers" and their commitment to the community displayed by donating a percentage of the income received for every order back to the community.

Despite the shortfalls of HCBs highlighted above, many Halal consumers regard them as the enforcers of the Islamic dietary laws in the developed world. They are also regarded by many FBOs as facilitators for Halal trade. This is because certificates issued by some of these organisations have become respected and are accepted by local Halal consumers and importers of Halal meat to Muslim-majority countries. It is worth noting that despite the existence of a large number of HCBs across the 28 EU member states, only a handful of these organisations can issue certificates for export to the international Halal market. This is because certificates issued by the local HCB can only be accepted in the importing destination if authorities in those countries accredit them. Table 1 is a list of some of the major HCBs within the EU and the countries where their certificates are accepted.

Halal Certification Body (HCB)	Accreditation of HCB in Halal-importing country			
	Malaysia (JAKIM)	Indonesia (MUI)	Singapore (MUIS)	UAE
Halal Control, Germany	Yes	Yes	Yes	No
Halal Feed and Food Inspection Authority, The Netherlands	Yes	Yes	Unknown	Yes
Halal Food Authority, UK	Yes	Yes	Yes	Yes
Halal Food Council of Europe, Belgium	Yes	Yes	Yes	Yes
Halal Institute of Spain, Spain	No	Yes	Yes	No
Halal International Authority, Italy	Yes	Yes	Yes	Yes
Halal Monitoring Committee, UK	No	No	No	Yes

Halal Quality Control, The Netherlands	Yes	Yes	Yes	Yes
Islamic Information and Documentation Centre, Austria	Yes	No	Yes	Yes
Ritual Association of Lyon Great Mosque, France	Yes	No	Yes	Yes
The Grand Mosque of Paris-SFCVH, France	No	Yes	Unknown	Unknown
The Muslim Religious Union in Poland, Poland	Yes	Yes	Unknown	Unknown
Total Quality Halal Correct, The Netherlands	Yes	Yes	Yes	Yes

Table 1: Major HCBs within the EU and the countries in which their certificates are recognised.

5. Halal meat safety

The procedure for the slaughter of animals for consumption by Muslims is not markedly different from conventional slaughter, with the exception of where animals are slaughtered without any form of pre-slaughter stunning. Halal slaughter with pre-slaughter stunning involves the same procedure as conventional slaughter, however, the former requires the recitation of a short prayer before or during slaughter to satisfy the religious requirements. One may therefore assume that the safety of meat should not be affected by the two methods described above, albeit post-slaughter processing or handling may affect food safety. At the time the Quran and other Islamic scriptures were revealed some 1400 years ago, there were no food safety regulations, however, the concept of *Tayyib* (wholesome/safe foods) was incorporated into Halal to cater for food safety, albeit this aspect is seldom given the attention it deserves within the

Muslim community. It has been suggested that the concept of Halal food safety according to the standards of the major HCBs is ambiguous (Demirci et al. 2016). This may be due to the fact that many HCBs have concentrated on the issue of slaughter whilst ignoring other important aspects such as the *Tayyib* requirements. Sirajuddin et al. (2013) noted that the failure of Muslim authorities to incorporate *Tayyib* into Halal meat production has exposed gaps in the safety of Halal meat, they have suggested a more holistic approach in interpreting the scriptures regarding the "*Halal-Tayyib*" concept of food production. Nonetheless, Cutler (2007) pointed out that Halal and Kosher (religiously slaughtered meat for Jews) meats are prepared under much stricter standards in comparison with meat from conventionally slaughtered animals (for consumers with no religious requirements governing meat production). This improves both the quality and safety of Halal and Kosher foods (Asghar et al. 1990; Farouk et al. 2014). On the contrary, the hygiene of the premises of most Muslim local butchers has often raised serious meat safety concerns, some of these premises often lack basic hygiene facilities such as facilities for hand washing or designated changing areas. It is not uncommon to see a local Muslim butcher handling or cutting meat with no hairnet, coat or apron. Huffington Post (2014b) reported that although Halal meat may guarantee spiritual purity, it does not necessarily guarantee safe meat. The report cited a number of incidents where Halal meat was found to be unfit for human consumption (Food Safety News 2009, 2013). One of the biggest seizures of unsafe Halal meat by food safety officers was recently reported in Glasgow (The Evening Times 2016). Approximately 1 tonne of unsafe meat, believed to be lamb was supplied to two Halal butchers operating in the Glasgow area. The Evening Times (2016) reported that these butchers were suppliers to some of the city's many food outlets.

The majority of the issues surrounding Halal meat safety include illegal slaughter of livestock, poor labelling and documentation, and poor hygiene and sanitation of Halal meat premises and personnel. These incidents of food fraud and food safety are not by any means restricted to the Halal meat industry. In Belgium and Ireland, the introduction of dioxin into the human food chain through the use of contaminated fat in animal feed (Casey et al. 2010) is still fresh in the minds of many Belgian and Irish consumers. Tahkapaa et al. (2015) suggested that these incidents might have prompted the adoption of EU Regulation 178/2002 in the EU. This regulation lays down the general principles pertaining to feed and food safety within the EU and at national levels.

6. Halal meat fraud

Some researchers have described food fraud as an ancient practice usually driven by profit (Manning et al 2016). The fraudulent trading in meat that is claimed to be Halal can take many forms, from the sale of illegally slaughtered animals generally associated with poor animal welfare, to the sale of unwholesome meat for human consumption, which poses a risk to human health. Manning and Soon (2014) argued that the fraudulent trading in foods that pose a public health risk are more often detected at a stage where the food is already at a point of sale or has potentially been consumed. In a recent food crime annual strategic assessment report in the UK, the Food Standards Agency (FSA) in conjunction with Food Standards Scotland (FSS) defined food crime as “dishonesty on the part of the producer or supplier” (FSA/FSS 2016). Table 2 shows different forms of food crime and the threat each may pose (FSA/FSS 2016), food crime within the Halal industry may fall under one of these categories. Food businesses (including Halal producers) are expected to be familiar with these offences, and steps must be taken to prevent them. In the UK, organised

criminal gangs are usually involved in these activities, a situation which because of the potential scale, raises food safety concerns among regulatory and food safety professionals (Pointing and Teinaz 2004). These authors explained that the most common offences included the sale of reprocessed chicken sludge bleached to improve its aesthetic value, the importation of unfit bush meat and "smokies" from parts of West Africa where such products are considered as delicacies. Blow-torching the skin or hide of an animal before splitting the carcass produces a "smokie", and is thought to improve the taste of the meat. Although banned within the EU (EC Regulation EC1662/2006), these products continue to be illegally imported into Europe for human consumption in some member states (Chaber et al. 2010; BBC 2010). Aside the dangers these products pose to public health, there are concerns for animal welfare and also conservation of endangered species. It has been reported that carcasses of endangered species such as giraffes, gorillas and chimpanzees have all been imported from Africa and sold within the EU as bush meat (Pointing and Teinaz 2004). Some products may end up in the Halal food chain with no proper documentation of their Halal status.

Food Crime Type	Threat	Meaning	Example
Pure Serious criminal activity in which the intention is to compromise the authenticity or safety of food	Adulteration	Rendering food poorer in quality by adding extraneous substance	The addition of methanol to Vodka in order to fraudulently increase volume
	Substitution	Replacing all or part of a food stuff with another	The substitution of lamb with another from a

		substance of a similar kind without altering its overall characteristics	less expensive species of red meat e.g. beef
	Diversion	Turning a foodstuff or another substance away from its intended course or purpose	Using animal waste (intended for destruction) in products for human consumption
	Misrepresentation	Selling a product as something it is not (whether in terms of origin, quality, safety for consumption or nutritional benefits)	Sale of shellfish from prohibited beds (owing to E-coli levels). False declaration of geographic origin.

Indirect Detrimental impact on the safety or authenticity of food as a consequence of other criminal activity	Identity theft	Fraudulently using the identity of a legitimate business for financial gain	Procurement of a consignment of chicken from a supplier using false company identity. The product is not stored or handled in accordance with food law and enters the food chain through informal channels
Cyber-enabled Serious criminal activity facilitated or enabled by the internet	Misrepresentation	Selling a product as something it is not (whether in terms of origin, quality, safety for consumption or nutritional benefits)	DNP, a harmful industrial chemical, is sold online as a weight-loss supplement. Dishonest concealment is then used to defeat detection in the course of

			shipping. Food supplements are sold online with exaggerated or entirely false claims made about their benefits

Table 2 An outline of the different forms of food crime (Adapted from FSA/FSS, 2016).

6.1 Illegal slaughter

Illegal slaughter is the slaughter of animals for human consumption outside a licensed establishment (EC853/2004), except where permission is granted for the slaughter to be performed outside a licensed premise, such as the on-farm slaughter of animals for personnel use only – on-farm slaughtered meat cannot be sold to the general public, it must be used by the owner (usually the farmer) or his/her immediate family. In addition to meeting the EU legislative requirements specified in EC1099/2009, animals destined for the Halal food chain must also be slaughtered in the Islamic tradition. Any meat that falls short of the two requirements above is deemed unfit for Muslim consumption. Guidance issued to Local Enforcement Authorities in the UK (FSA 2009) highlights the following scenarios that should arouse suspicion regarding the legality of meat:

- The slaughter of animals at unlicensed establishments
- The cutting of meat at unlicensed premises
- Unlabelled or poorly health-marked meat

- Meat that may have been imported through illegal channels
- Meat that is advertised, marketed and sold by itinerant vendors at car boot sales, pubs, clubs and other public gatherings
- Meat that was slaughtered legally but may become unfit to consume within the interpretation of EC178/2002 due to storage under unsanitary conditions or at temperatures outside the legal limits.

Table 3 below lists examples of fraudulent activities discovered in the Halal meat industry in the UK. Muslims are instructed, according to the Islamic scriptures (Quran and Hadith) to consume only Halal meat, many Muslims therefore regard the consumption of Halal meat as a religious act, hence the significance of consuming Halal meat to a Muslim cannot be underestimated. It is therefore surprising, that some Muslims or food businesses owned by Muslims have been implicated directly or indirectly in the majority of the crimes committed regarding the falsification of the status of Halal meat. This, according to experts in the Halal certification or regulation industry is why some production is motivated by greed and a desire to maximise profits by means either by fair or foul.

Incident	Fine imposed	Source
A Halal Meat Company in Bradford used counterfeit Halal labels on meat products and sold them as Halal	£20,000	http://birminghamnewsroom.com/meat-supplier-ordered-to-pay-nearly-20000-for-fake-halal-labels/
A Halal meat wholesaler in Birmingham mislabelled and sold non-Halal meat as Halal.	£62,000	http://www.halaltimes.com/fake-birmingham-halal-meat-company-fined-62000-pounds/

A Halal Meat supplier in Birmingham misled Halal consumers by claiming their products were certified by the Halal Monitoring Committee	£1,100	http://birminghamnewsroom.com/halal-meat-supplier-fined-for-misleading-customers/
Halal Meat butcher in Manchester mixed cheap minced beef with minced lamb and sold it as 100% lamb	£18,000	http://www.manchestereveningnews.co.uk/news/greater-manchester-news/halal-butchers-food-fraud-trafford-11178552
A meat processor in Newry, Northern Ireland, falsely labelled non-Halal burgers as Halal	£70,000	http://www.bbc.co.uk/news/uk-northern-ireland-33317601
A meat supplier in Walton Summit, supplied Halal "chicken" kebabs to one of the major retailers which were found to contain mainly connective tissues and beef.	£10,000	http://www.lep.co.uk/news/business/food-firm-hit-by-kebab-fine-1-4670081
Four men illegally slaughtered sheep for the Eid festivities at unlicensed premises without prior stunning	£2,075	http://www.express.co.uk/news/uk/580745/Islam-Muslim-halal-slaughter-farm-UK-Llechrydau-Farm-court

399 Table 3. A list of some of the reported crimes involving Halal meat in the UK.

400 **6.2 Mislabelling of Halal meat**

401 The accurate labelling, presentation and advertisement of foodstuffs within the EU
402 must comply with Article 2 of Council Directive 2000/13/EC. This specifically makes
403 it an offence for the labelling of any food product to mislead consumers regarding the
404 characteristics, identity, constituents, quantity, method of manufacture, durability and
405 geographical origin of the product. Despite the lack of clarity regarding the true
406 meaning or definition of Halal, the intentional mislabelling of non-Halal products as
407 Halal in order to mislead consumers into purchasing such products constitutes an
408 offence. The doubts surrounding the true meaning of Halal meat is brought about by
409 the sketchy interpretation of the Islamic scriptures by Muslim scholars with regard to
410 modern livestock farming and animal slaughter practice. This lack of agreement
411 between HCBs makes it difficult for Local Enforcement Officers to identify
412 fraudulent activities in the Halal meat trade. On one hand, some Muslims are reluctant
413 to accept any farming, animal slaughter or meat processing technique that was not
414 used by the Prophet of Islam, on the other hand, there are Muslims who have
415 recognised the need to accept technologies that do not explicitly violate the Islamic
416 slaughter guidelines, as they were not available at the time of the Prophet. Halal meat
417 may be mislabelled in two ways; false declaration of meat species and the presence of
418 undeclared meat species (Chuah et al 2016). A series of surveys regarding the
419 labelling of chicken products in the UK concluded that there was widespread
420 mislabelling of chicken (FSA 2001, 2003). With regard to chicken labelled as Halal,
421 the following worrying conclusions were reached:

422 • There was widespread mislabelling of Halal chicken.

- The addition of water to ‘pump up’ chicken was a common practice. In some instances, over 50% of the chicken weight was added water..
- The water used in “pumping-up” the chicken was found to contain proteins to aid the retention of water in the carcasses, these proteins were of porcine and bovine origin. As mentioned above, it is forbidden for Muslims to consume pork or its derivatives, in addition, the bovine protein may have been derived from animals slaughtered contrary to the Islamic slaughter requirements.
- Additives used in chicken were often not included on labels.

Aldi Supermarket had to apologise to its UK Muslim consumers after a product containing pig blood and pig skin was mislabelled as Halal by its producer (International Business Times 2015). The retailer indicated that it was an isolated incident and that it did not pose any food safety risks to consumers. The adulteration and mislabelling of Halal meat is not restricted to the EU, Chuah et al (2016) tested 143 processed “Halal” meat (beef and poultry) products in Malaysia for the presence of Halal-prohibited proteins from pigs, rats, cats, donkeys, dogs and other undeclared Halal-acceptable species. They found that 78% of the products were mislabelled. In addition, buffalo DNA was detected in 40 out of 58 products labelled as beef whilst 33 out of the 58 products contained undeclared chicken. However, none of the Halal-prohibited products were found in those tested.

6.3 Contamination of Halal meat

Meat derived from pigs, carnivorous animals, birds of prey and animals slaughtered contrary to Islamic principles are regarded as non-Halal. The cross-contamination of Halal meat with any of these products will negate the Halal status of the meat. Pork appears to be the most important product of concern for the majority of Muslims living in the West, this is because most Halal meat producing facilities in these

448 countries also handle and process pork alongside Halal meat products. This practice
449 increases the risk of cross-contamination between the Halal products and pork,
450 particularly where there are poor segregation and cleaning between the two products.
451 The detection of even very low levels of pork or porcine genetic materials in Halal
452 products will render the products non-Halal. Due to this concern, a number of
453 researchers have attempted to use different testing techniques to determine the
454 identity of meat protein in Halal products in order to reassure Halal consumers of the
455 authenticity of Halal products (Murugaiah et al. 2009; Demirhan et al. 2012;
456 Stamoulis et al. 2010; Ulca et al. 2013). The Malaysia government recently signed a
457 Memorandum of Understanding (MoU) with a UK based testing facility, Fera
458 Science, for the provision of Halal proficiency testing (Global Meat News 2016). The
459 aim of the agreement is for Fera Science to develop protocols for the detection of pork
460 and alcohol in low levels in Halal products. These protocols are therefore restricted to
461 species and alcohol detection and not the wider ethical issues in the Halal industry.

462 **7. Conclusion**

463 The consumption of Halal meat is an important aspect of the dictums of the Islamic
464 faith. However, the desire of some Halal meat suppliers to maximise profits has led to
465 a series of incidents involving the mislabelling of products that do not meet the Halal
466 dietary laws as Halal. Incidents of this nature can cause significant distress to
467 practicing Muslims. Divergent views within the Muslim community regarding what is
468 authentic Halal have resulted in confusion among FBOs, Halal consumers and
469 stakeholders in the industry. This also makes it difficult for law enforcement agencies
470 to identify and prosecute offenders of Halal meat fraud. Nonetheless, in recent years,
471 there have been a number of successful prosecutions of Halal meat suppliers who
472 intentionally sold non-Halal meat as Halal. The health and safety aspects of Halal

meat has also been questioned, as a significant proportion originates from smaller, potentially less well managed and regulated processors. Some researchers have suggested that the adoption of a holistic *"Halal-Tayyib"* concept of livestock agriculture and meat production would alleviate some of the food safety risks associated with post-slaughter handling of Halal meat. Further research is needed to understand the Islamic scholarly interpretation of the *Halal-Tayyib* concept and how this can be incorporated into modern livestock agriculture and food processing systems. The successful implementation of this concept would improve animal welfare during Halal slaughter as well as eliminate the food safety risks associated with Halal food production. Halal Certification Bodies need to engage to play this vital role in ensuring the successful implementation of this concept.

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